

ABSTRACT

An internal combustion engine (1) provided with a valve mechanism (VM) able to change a valve opening characteristic of at least one of an intake valve (Vi) and exhaust valve (Ve), a cylinder pressure sensor (15) for detecting a cylinder pressure in a combustion chamber (3), and an ECU (20), wherein the ECU (20) calculates the amount of air sucked into the combustion chamber (3) based on an intake air pressure during valve overlap between the intake valve (Vi) and the exhaust valve (Ve), the exhaust gas pressure during valve overlap, a cylinder pressure during the compression stroke detected by a cylinder sensor (15), and a gas passage effective area during valve overlap.